

REMARKS

Applicant would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe the subject matter which applicant regards as the invention.

Claims 1 and 2 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wycech (U.S. Patent No. 6,270,600) in view of Davies (U.S. Patent No. 5,806,919). Claim 3 was rejected under 35 U.S.C. 103(a) as being unpatentable over Wycech and Davies as applied to claim 1, and further in view of Madsen (U.S. Patent No. 2,239,173). Claim 4 was rejected under 35 U.S.C. 103(a) as being unpatentable over Wycech and Davies as applied to claim 1, and further in view of Heilemann (U.S. Patent No. 3,948,247). Claim 11 was rejected under 35 U.S.C. 103(a) as being unpatentable over Wycech and Davies as applied to claim 1, and further in view of Kropfeld (U.S. Patent No. 6,896,320). Claim 12 was rejected under 35 U.S.C. 103(a) as being unpatentable over Wycech and Davies in view of Kropfeld. Claims 14 and 17-19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wycech, Davies and Kropfeld as applied to claim 12, and further in view of Heilemann. All claim rejections are traversed for the following reason.

To establish a *prima facie* case of obviousness, the Examiner must show that a combination of references teaches all claim elements and that the combination of references is obvious to one skilled in the art. Presently, the Examiner combines the teachings of the Wycech and the Davies patents to, at least in part, meet the elements of all pending claims. However, the Wycech and Davies patents are not

properly combinable with one another. As the references cannot be combined with one another, and all claim rejections depend on their combination, the rejections of all pending claims fail to meet the standard for a *prima facie* obviousness rejection.

For the proposed combination to stand, one skilled in the art must find it obvious to modify the reinforced joint frame structure of Wycech with the interior reinforcing structure of Davies. However, such a finding is precluded if it can be shown that the art, in any material respect, teaches away from the proposed combination. MPEP 2144.05(III), *In re Geisler*, 43 U.S.P.Q.2d 1362, 1366 (Fed. Cir. 1997). With particular reference to the disclosure of the patents, it will be shown that Wycech teaches away from a combination with Davies, rendering the proposed combination of the patents improper.

Wycech discloses a reinforced frame joint structure having a channel with a U-shaped cross-section and a closure plate, the closure plate being used to close the cross-section of the U-shaped channel (this portion will hereinafter be referred to as "the frame"). The frame is reinforced through the application of a foamed resin. The foamed resin is disposed on a foil sheet, and the two are then formed into a U-shape matching the shape of the inner walls of the frame. The U-shaped resin/foil structure is placed into the channel, the closure plate is secured, and the resin is then foamed. As shown in Figs. 1 and 4 of Wycech, the foamed resin is bounded in a U-shape against the side and bottom walls of the U-shaped channel of the frame by the foil sheet. Consequently, the frame includes a hollow inner space defined between the U-shaped foil and the underside of the closure plate. By providing a hollow inner space, less foamed resin is used, resulting in the weight and cost of the joint being reduced.

Davies teaches a joint having a low density-high density reinforcing insert.

The joint has a closed, generally square shaped cross-section which is filled by the low density-high density insert. The insert comprises two separate portions formed with one another, a central, low density portion, and an outer, high density portion. The central portion of the insert is a low density composite foam, and is surrounded by the high density portion that is formed of a high density precursor. Accordingly, the high density outer portion is disposed between the low density central portion and the inner walls of the joint. Davies seeks to reduce the amount of foamed resin used (thereby reducing cost and weight) by filling the inner space with the low-density central portion.

In combining the references, it is believed the Examiner has failed to appreciate that the combination is in contradiction to the teachings of the Wycech patent. Particularly, Wycech specifically recites that:

"[R]esin is a relatively expensive component and thus resin reduction is a desirable goal. By providing conforming or nested formed-in-place channel-shaped structures as shown in Fig. 1, resin volume is reduced over a solid fill of resin and weight is reduced by using a reinforcing foil rather than a thick heavy metal, insert". (*sic*)

Wycech specification, Col. 4, lines 28-37. Such a recitation is in line with the goal of the Wycech frame: providing a lower-weight, lower-cost reinforced joint frame structure. The lower weight and lower cost result directly from the decreased use of foamed resin (which is both expensive and heavy) as a result of a large hollow space within the frame.

If Wycech is modified as proposed by the Examiner, the proposed modification requires the use of additional foamed resin, so as to fill the space between the reinforcing member and the plate member (the members corresponding

to these elements in Wycech). Such a modification would increase the weight and cost of the Wycech joint, and for that reason, is taught away from in the Wycech patent. In fact, the Wycech patent teaches a structure and a method for forming the joint having the creation of the hollow space as the primary concern. Accordingly, combining Wycech with the teachings of Davies so as to fill the hollow inner space with a foamed resin is in opposition to the very core of the Wycech patent.

Further still, the addition of any of the reinforcing components of Davies would result in the Wycech joint having an increased weight and cost. Such an increase reduces the functionality of the Wycech joint, and is in direct opposition to the stated goal of the Wycech patent.

For these reasons, the Wycech patent teaches away from the proposed combination with Davies. The teaching away of the Wycech patent precludes a finding that the combination of references is obvious to one skilled in the art. Thus, as the references have been shown to not be properly combinable, the obviousness rejections based on the combination of the patents fail to meet the established *prima facie* requirements, and should be withdrawn.

All rejections of the pending claims is based, at least in part, on the combination of Wycech and Davies. As the references are not combinable, all of the claim rejections fail. Reconsideration and withdrawal of all rejections is requested.

Further, in the interest of keeping the remarks as brief as possible, certain arguments presented in Amendment "F" are reasserted herein through reference, rather than restated in full. Particularly, the arguments presented opposing the combination of Wycech with any of: Kropfeld, Madsen, and Heilemann, are

considered relevant. The arguments are not affected by the introduction of the (also not properly combinable) Davies reference, and are hereby incorporated in full.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. SHM-14986.

Respectfully submitted,

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